

## APPENDIX 1: DATABASE SEARCH STRATEGIES

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Note: Search strategies for the following databases are presented below: PsycINFO, Medline, Embase, and Cochrane. Searches were adapted for Cinahl and ERIC databases (available on request). Information specialist's notes (describing groups of search strings and filters) are given in bolded italics.

**Search date: 23 June 2008**

**Database: PsycINFO <1967 to June Week 3 2008>**

### Search Strategy:

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- 1 autism/ or aspergers syndrome/ or autistic thinking/ (13411)
  - 2 pervasive developmental disorders/ (1567)
  - 3 (pdd\* or asd\*).tw. (2128)
  - 4 autis\*.ti,ab. (16146)
  - 5 asperger\*.ti,ab. (1607)
  - 6 kanner\*.ti,ab. (261)
  - 7 rett\*.ti,ab. (548)
  - 8 rett syndrome/ (372)
  - 9 or/1-6 (17896) ***Autism***
  
  - 10 applied behavio\* analysis.tw. (923)
  - 11 aba.tw. (384)
  - 12 or/10-11 (1214)
  - 13 (home-based adj6 (behavio\* or intervention\* or treatment\* or program\* or education)).tw. (1016)
  - 14 intervention program\*.tw. (7737)
  - 15 (behavio\* adj1 (intervention\* or technique\* or treatment\* or support or modification)).tw. (19096)
  - 16 applied behavio\*.tw. (1214)
  - 17 (functional adj (analysis or assessment)).tw. (2910)
  - 18 pivotal response training.tw. (32)
  - 19 reciprocal imitation training.tw. (3)
  - 20 errorless compliance training.tw. (15)
  - 21 discrimination training.tw. (1442)
  - 22 differential reinforcement.tw. (1544)
  - 23 reinforcement.tw. (31475)
  - 24 model?ing.tw. (29147)
  - 25 in vivo model?ing.tw. (8)
  - 26 video model?ing.tw. (84)
  - 27 behavio\* script\*.tw. (34)
  - 28 task analysis.tw. (1312)
  - 29 chaining.tw. (506)
  - 30 prompting.tw. (1790)
  - 31 shaping.tw. (6515)
  - 32 discrete trial.tw. (669)
  - 33 fading.tw. (1193)
  - 34 PPP.tw. (148)
  - 35 token economy.tw. (812)
  - 36 (contingen\* or non-contingen\*).tw. (20510)
  - 37 planned activit\*.tw. (123)
  - 38 (bell and pad).tw. (39)
  - 39 social stor\*.tw. (86)
  - 40 PECS.tw. (83)
  - 41 stimulus control.tw. (2382)

- 42 punishment.tw. (9472)  
 43 generalization.tw. (13216)  
 44 operant.tw. (11041)  
 45 establishing operations.tw. (112)  
 46 antecedent.tw. (3990)  
 47 webster-stratton.tw. (48)  
 48 lovaas.tw. (100)  
 49 or/10-11,13-48 (142652) **Intervention keywords**
- 50 Early Intervention/ (6081)  
 51 Teaching Methods/ (26954)  
 52 educational programs/ or individual education programs/ (11723)  
 53 special education/ (17379)  
 54 behavior modification/ (9934)  
 55 behavior analysis/ (991)  
 56 exp Reinforcement/ (34822)  
 57 token economy programs/ (756)  
 58 social skills training/ (3360)  
 59 socialization/ (6754)  
 60 speech therapy/ (3132)  
 61 multimodal treatment approach/ (1458)  
 62 home visiting programs/ (970)  
 63 compliance/ (2820)  
 64 task analysis/ (2436)  
 65 functional analysis/ (501)  
 66 stimulus control/ (1705)  
 67 fading/ (167)  
 68 prompting/ (236)  
 69 punishment/ (4399)  
 70 discrimination learning/ (4147)  
 71 "generalization (learning)"/ (1912)  
 72 Operant conditioning/ (8713)  
 73 or/50-72 (132671) **Interventions MeSH**
- 74 clinical trials/ (2312)  
 75 random\*.mp. (78846)  
 76 (clinical adj trial\*).tw. (10018)  
 77 (control\* adj trial\*).tw. (9286)  
 78 ((clinical or control\* or comparativ\*) adj (study or studies)).tw. (19987)  
 79 placebo/ (2172)  
 80 placebo\*.tw. (21685)  
 81 ((single or double or treble or triple) adj blind\*).tw. (12973)  
 82 rct.tw. (587)  
 83 or/74-82 (118353) **RCTs**
- 84 meta analysis/ (3443)  
 85 meta analy\*.tw. (10614)  
 86 metaanaly\*.tw. (247)  
 87 (systematic adj (review\* or overview\*)).tw. (3519)  
 88 systematic review.md. (2301)  
 89 meta analysis.md. (7415)  
 90 or/84-89 (14471) **SRs**
- 91 comparative stud\*.tw. (7791)  
 92 cohort stud\*.tw. (3372)  
 93 cohort analy\*.tw. (253)  
 94 control\* stud\*.tw. (8603)  
 95 case-control\* stud\*.tw. (1889)  
 96 case control\*.tw. (2725)  
 97 comparat\*.tw. (28981)

- 98 (follow?up adj stud\*).tw. (1903)  
 99 (observational adj stud\*).tw. (2276)  
 100 longitudinal.tw. (43283)  
 101 cross-sectional.tw. (15953)  
 102 or/91-100 (87305) **Other studies**
- 103 treatment outcomes/ (16936)  
 104 treatment effectiveness evaluation/ (10493)  
 105 ((treatment or therap\* or intervention\* or program\* or education\* or behavio\*) adj2 (outcome\* or evaluation)).tw. (34769)  
 106 evaluation stud\*.tw. (1346)  
 107 (outcome\* and measur\*).tw. (40711)  
 108 effective\*.tw. (176217)  
 109 or/103-108 (240751) **Outcomes/effectiveness**
- 110 9 and (49 or 73) (3499)  
 111 limit 110 to (english language and yr="1998 - 2007") (1847)  
 112 111 and (83 or 90 or 102 or 109) (720)  
 113 limit 112 to all journals (514)

**Database: Ovid MEDLINE(R) <1996 to June Week 2 2008>**

**Search Strategy:**

- 
- 1 child development disorders, pervasive/ or asperger syndrome/ or autistic disorder/ (6822)  
 2 (pdd\* or asd\*).tw. (3270)  
 3 autis\*.tw. (6837)  
 4 asperger\*.tw. (782)  
 5 kanner\*.tw. (37)  
 6 rett\*.tw. or rett syndrome/ (1210)  
 7 or/1-5 (10354) **Autism**
- 8 applied behavio\* analysis.tw. (63)  
 9 aba.tw. (2060)  
 10 8 or 9 (2118)  
 11 (home-based adj6 (behavio\* or intervention\* or treatment\* or program\* or education)).tw. (745)  
 12 intervention program\*.tw. (3603)  
 13 (behavio\* adj1 (intervention\* or technique\* or treatment\* or support\* or modification)).tw. (5251)  
 14 applied behavio\*.tw. (88)  
 15 (functional adj (analysis or assessment)).tw. (9021)  
 16 pivotal response training.tw. (5)  
 17 reciprocal imitation training.tw. (3)  
 18 errorless compliance training.tw. (6)  
 19 discrimination training.tw. (164)  
 20 differential reinforcement.tw. (251)  
 21 reinforcement.tw. (6960)  
 22 model?ing.tw. (56575)  
 23 in vivo model?ing.tw. (32)  
 24 video model?ing.tw. (25)  
 25 behavio\* script\*.tw. (4)  
 26 task analysis.tw. (235)  
 27 chaining.tw. (90)  
 28 prompting.tw. (1699)  
 29 shaping.tw. (5081)  
 30 discrete trial.tw. (109)  
 31 fading.tw. (705)  
 32 PPP.tw. (764)  
 33 token economy.tw. (25)  
 34 (contingen\* or non-contingen\*).tw. (6056)  
 35 planned activit\*.tw. (47)  
 36 (bell and pad).tw. (10)

- 37 social stor\*.tw. (15)  
 38 PECS.tw. (302)  
 39 stimulus control.tw. (369)  
 40 punishment.tw. (1292)  
 41 generalization.tw. (4109)  
 42 operant.tw. (2196)  
 43 establishing operations.tw. (31)  
 44 antecedent.tw. (2454)  
 45 webster-stratton.tw. (13)  
 46 lovaas.tw. (17)  
 47 or/10-46 (106216) **Interventions keywords**
- 48 Teaching/mt [Methods] (6398)  
 49 "Early Intervention (Education)"/ (780)  
 50 models, educational/ (4179)  
 51 Education, Special/ (1266)  
 52 Behavior Therapy/ (6051)  
 53 socialization/ (1962)  
 54 Language Therapy/ (425)  
 55 reinforcement schedule/ (1589)  
 56 token economy/ (262)  
 57 "reinforcement (psychology)"/ (3606)  
 58 Punishment/ (964)  
 59 Conditioning, Operant/ (4449)  
 60 "Generalization (Psychology)"/ (788)  
 61 Discrimination Learning/ (6153)  
 62 or/48-61 (34513) **Interventions MeSH**
- 63 randomized controlled trial/ (156593)  
 64 Randomized Controlled Trials as Topic/ (45973)  
 65 random allocation/ (25929)  
 66 double-blind method/ or single-blind method/ (60445)  
 67 exp clinical trial/ (330416)  
 68 clinical trial.pt. (241671)  
 69 (clinic\* adj trial\*).tw. (83281)  
 70 ((single or double or treble or triple) adj blind\*).tw. (47458)  
 71 Placebos/ (8940)  
 72 placebo\*.tw. (63767)  
 73 (random\* adj2 allocat\*).tw. (7917)  
 74 or/63-73 (470542)  
 75 case reports.pt. (545345)  
 76 letter.pt. (314192)  
 77 historical article.pt. (78404)  
 78 75 or 76 or 77 (868414)  
 79 74 not 78 (456541) **RCTs**
- 80 Meta-Analysis/ (15791)  
 81 meta analy\*.tw. (17895)  
 82 metaanaly\*.tw. (626)  
 83 "review literature as topic"/ (2177)  
 84 meta-analysis as topic/ (6268)  
 85 (systematic adj (review\* or overview\*)).tw. (13802)  
 86 or/80-85 (38109)  
 87 comment.pt. (263004)  
 88 letter.pt. (314192)  
 89 editorial.pt. (139211)  
 90 87 or 88 or 89 (500050)  
 91 86 not 90 (35346) **SRs**
- 92 exp cohort studies/ (403989)

- 93 exp Case-Control Studies/ (284331)  
 94 case control\*.tw. (31414)  
 95 (cohort adj stud\*).tw. (30023)  
 96 cohort analy\*.tw. (1272)  
 97 (follow up adj stud\*).tw. (12723)  
 98 (observational adj stud\*).tw. (15107)  
 99 longitudinal.tw. (48328)  
 100 retrospective.tw. (104910)  
 101 Comparative Study/ (656148)  
 102 comparative stud\*.tw. (18818)  
 103 or/92-102 (1208104) **Other studies**
- 104 treatment outcome/ (300694)  
 105 ((treatment or therap\* or intervention\* or program\* or education\* or behavio\*) adj2 (outcome\* or evaluation)).tw. (34468)  
 106 evaluation stud\*.tw. (1352)  
 107 (outcome\* and measur\*).tw. (117708)  
 108 effective\*.tw. (436354)  
 109 or/104-108 (774545) **Outcomes/effectiveness**
- 110 7 and (47 or 62) (969)  
 111 110 and (79 or 91 or 103 or 109) (473)  
 112 limit 111 to (english language and yr="1998 - 2007") (406)

**Database: EMBASE <1988 to 2008 Week 25>**

**Search Strategy:**

- 
- 1 exp autism/ (11973)  
 2 (pdd\* or asd\*).tw. (4076)  
 3 autis\*.tw. (8743)  
 4 asperger\*.tw. (874)  
 5 kanner\*.tw. (63)  
 6 or/1-5 (15657) **Autism**
- 7 applied behavio\* analysis.tw. (79)  
 8 aba.tw. (1182)  
 9 7 or 8 (1249)  
 10 (home-based adj6 (behavio\* or intervention\* or treatment\* or program\* or education)).tw. (859)  
 11 intervention program\*.tw. (4057)  
 12 (behavio\* adj1 (intervention\* or technique\* or treatment\* or support or modification)).tw. (6974)  
 13 applied behavio\*.tw. (112)  
 14 (functional adj (analysis or assessment)).tw. (10106)  
 15 pivotal response training.tw. (8)  
 16 reciprocal imitation training.tw. (3)  
 17 errorless compliance training.tw. (8)  
 18 discrimination training.tw. (206)  
 19 differential reinforcement.tw. (327)  
 20 reinforcement.tw. (8111)  
 21 model?ing.tw. (68285)  
 22 in vivo model?ing.tw. (43)  
 23 video model?ing.tw. (21)  
 24 behavio\* script\*.tw. (6)  
 25 task analysis.tw. (302)  
 26 chaining.tw. (123)  
 27 prompting.tw. (1905)  
 28 shaping.tw. (4732)  
 29 discrete trial.tw. (179)  
 30 fading.tw. (1151)  
 31 PPP.tw. (1246)  
 32 token economy.tw. (51)

- 33 (contingen\* or non-contingen\*).tw. (6608)  
 34 planned activit\*.tw. (55)  
 35 (bell and pad).tw. (14)  
 36 social stor\*.tw. (12)  
 37 PECS.tw. (356)  
 38 stimulus control.tw. (508)  
 39 punishment.tw. (1522)  
 40 generali?ation.tw. (5179)  
 41 operant.tw. (3221)  
 42 establishing operations.tw. (17)  
 43 antecedent.tw. (3153)  
 44 webster-stratton.tw. (15)  
 45 lovaas.tw. (15)  
 46 or/9-45 (125412) **Interventions keywords**
- 47 teaching/ (10655)  
 48 education program/ (22413)  
 49 special education/ (290)  
 50 behavior therapy/ (18740)  
 51 behavior modification/ (5059)  
 52 reinforcement/ (8441)  
 53 Social Adaptation/ (6012)  
 54 Speech Therapy/ (3801)  
 55 functional assessment/ (30875)  
 56 exp discrimination learning/ (3409)  
 57 stimulus generalization/ (258)  
 58 instrumental conditioning/ (3300)  
 59 or/47-58 (105221) **Interventions MeSH**
- 60 exp clinical trial/ (498753)  
 61 randomization/ (25637)  
 62 randomi?ed controlled trial\*.tw. (28565)  
 63 rct.tw. (2239)  
 64 (random\* adj2 allocat\*).tw. (11033)  
 65 (clinic\* adj trial\*).tw. (103647)  
 66 ((single or double or treble or triple) adj blind\*).tw. (73165)  
 67 PLACEBO/ct [Clinical Trial] (436)  
 68 placebo\*.tw. (91600)  
 69 crossover procedure/ or double blind procedure/ or single blind procedure/ (81752)  
 70 or/60-69 (611364)  
 71 Case Study/ (3775)  
 72 case report.tw. (95838)  
 73 abstract report/ or letter/ (399597)  
 74 71 or 72 or 73 (497194)  
 75 70 not 74 (592070) **RCTs**
- 76 exp meta analysis/ (33526)  
 77 meta analy\*.tw. (19373)  
 78 metaanaly\*.tw. (1093)  
 79 (systematic adj (review\* or overview\*)).tw. (13504)  
 80 review.pt. (837249)  
 81 77 or 78 or 79 or 80 (853832)  
 82 (letter or editorial).pt. (597836)  
 83 81 not 82 (852838) **SRs**
- 84 clinical study/ or family study/ or intervention study/ or longitudinal study/ or prospective study/ or retrospective study/ (197314)  
 85 case control study/ (17989)  
 86 cohort analysis/ (49064)  
 87 comparative study/ (107422)

- 88 case control\*.tw. (37701)  
 89 (cohort adj stud\*).tw. (32550)  
 90 cohort analy\*.tw. (1482)  
 91 (observational adj stud\*).tw. (16376)  
 92 comparat\*.tw. (99336)  
 93 longitudinal.tw. (57571)  
 94 retrospective.tw. (122347)  
 95 (follow?up adj study).tw. (316)  
 96 or/84-95 (565386) **Other studies**
- 97 treatment outcome/ (321033)  
 98 outcome assessment/ or outcomes research/ (103417)  
 99 ((treatment or therap\* or intervention\* or program\* or education\* or behavio\*) adj2 (outcome\* or evaluation)).tw. (40716)  
 100 evaluation stud\*.tw. (1528)  
 101 (outcome\* and measur\*).tw. (132360)  
 102 effective\*.tw. (561229)  
 103 or/97-102 (998761) **Outcomes/effectiveness**
- 104 6 and (46 or 59) (1627)  
 105 limit 104 to (human and english language and yr="1998 - 2007") (1150)  
 106 105 and (75 or 83 or 96 or 103) (629)  
 107 si.fs. (456279)  
 108 su.fs. (716986)  
 109 di.fs. (1333282)  
 110 dr.fs. (45534)  
 111 107 or 108 or 109 or 110 (2125055) **excluded papers on side-effects, surgery, diagnosis, drugs**  
 112 106 not 111 (384)

### Cochrane Library

- #1 (autis\*):ti,ab,kw or (asperger\*):ti,ab,kw or (kanner\*):ti,ab,kw or (pdd\*):ti,ab,kw (asd\*):ti,ab,kw  
 #2 (behavio\* next therap\*):ti,ab  
 #3 (behavio\* next treatment\*):ti,ab  
 #4 (behavio\* next intervention\*):ti,ab  
 #5 (behavio\* next analysis):ti,ab  
 #6 (#2 OR #3 OR #4 OR #5)  
 #7 (#1 AND #6)  
 #8 (#1 AND #6), from 1998 to 2007 (15)